

REQUEST FOR BIDS

CITY OF MOUNTAIN VIEW
Purchasing Division
500 Castro St/PO Box 7540
Mountain View CA 94039-7540
Ph 650-903-6324 Fax 650-968-5472

Page 1 of 1

Bid Due Date: 9/17/2004
Bid Due Time: 2:00 PM

Vendor Name _____
Vendor Address _____

Item	Qty	Unit	Description	Unit Price	Amount
0001	1	EA	BOOKMOBILE, 27-foot, front-engine, forward control "step van" style, 25,900 lb low profile chassis, as per attached Bookmobile Specifications Version 1.5 and five (5) drawings. (Please Quote Sections 1 – 3 as lump sum base bid)	\$ _____	\$ _____
0002	1	EA	ADD/ALTERNATE ITEMS, Section 4.1 – 4.11 (Quote each item separately. City may select one or more items and it's sole discretion).	\$ _____	\$ _____

No pre-bid conference is schedule at this time. Please contact Michael Swendrowski of Specialty Vehicle Services at (262) 679-9096 for questions regarding technical specifications.

Payment Terms: Net 30 or better _____	Subtotal	\$ _____
Guaranteed Delivery of ____ business days ARO	8.25% Sales Tax	\$ _____
	(Pre-pay & Add) Shipping	\$ _____
Signature Accepts City's Attached Terms & Conditions	GRAND TOTAL	\$ _____

 Signature of Company Officer

 Printed Name of Company Officer

E-mail address _____
 Phone Number _____
 FAX Number _____

CITY OF MOUNTAIN VIEW
REQUEST FOR BIDS NO. R050382
INSTRUCTIONS FOR SUBMITTING BIDS

1. **Type of Reply Requested:**

- ☐ Request for Bid, Informal (fax bids are acceptable)
☒ Request for Bid, Formal, Public Opening (no faxes)

2. **Bids Due:** 2:00 PM, Friday, September 17, 2004

3. **Reply To:**

City of Mountain View
Attention: Chris Hartje, Supervising Buyer
500 Castro Street
Mountain View, CA 94041

or

P.O. Box 7540
Mountain View, CA 94039-7540

Phone: (650) 903-6324 Fax: (650) 968-5472

Questions: Call the person named above for questions regarding this bidding process, or call **Michael Swendrowski of Specialty Vehicle Services at (262) 679-9096** for questions regarding the specifications and/or requirements.

4. **Reply Format:** The entire bid form, including all attachments, must be returned by the bid due date to the above address. The envelope returning the bid shall have the bid number and the due date. By signing our bid form, you are agreeing to the City's Terms and Conditions. **(Please note insurance requirements on Pages 5 and 6.)** Once notified of bid award, the Vendor has five days to send the correct certificate of insurance. Lack of a timely response is grounds for rejection of the Vendor's bid.
5. **Prebid Conference:** The prebid conference is mandatory (if required and noted on the bid form) and is for the City's protection, to ensure that vendors know the work required. The Purchasing Agent may waive this requirement if the Vendor is familiar with the work requirements and asks the City for permission to miss the prebid conference.
6. **Deviations from Bid Specifications:** If there are any deviations from the brands and/or specifications, the Vendor **MUST** note such differences, brand names, model numbers and attach brochures and a complete description of the goods or services bid. The burden of showing the equivalency is on the Vendor.
7. **Bid Award:** The City reserves the right to reject any and all bids, or to waive any errors, discrepancies or irregularities. The bid will be awarded at the discretion of the City Manager (formal bids) or Purchasing Agent (all other bids) on an item-by-item basis, or in any fashion that best meets the needs of the City. All blanks for unit prices must be completed.

TERMS AND CONDITIONS

1. **Payment Terms:** The City's payment terms are, at a minimum, net thirty (30) days after acceptance of service or delivery of goods. The Vendor's invoice must easily match the unit prices listed in this bid and must include the Vendor's Social Security number or Federal Tax I.D. number. Vendors may offer discounted payment terms and those should be listed on the Vendor's response.
2. **Time of Delivery/Completion:** Time is of the essence on this purchase order. The Vendor shall deliver all of the goods or complete all of the services called for under this proposal within the number of working/calendar days or by the date specified for completion in this proposal, unless the delays are caused by the City or by acts of God. Failure to deliver on time shall be grounds for termination of this Agreement or invoke "Liquidated Damages" if required below.
3. **Freight Charges:** All prices bid shall include all freight costs and ownership transfers to the City at the City's location and are F.O.B. destination to the designated locations. Freight, if quoted separately, shall be prepaid and added to the invoice with ownership transferring to the City when delivery is completed to the City's location.
4. **Liquidated Damages:**

☐ Required ☒ Not Required

If required, it is agreed by the Vendor that if the goods or services are not delivered complete, as called for in this proposal, damages will be sustained by the City, and that it is and will be impracticable and extremely difficult to ascertain and determine the actual damage which the City will sustain in the event of and by reason of such delay; and it is, therefore, agreed that the Vendor will pay to the City the sum of Three Hundred Fifty Dollars (\$350) per day for each and every calendar day's delay in finishing the work in excess of the number of working or calendar days prescribed or in excess of the date specified for completion or delivery of the goods or services, whichever is applicable in this Proposal; and the Vendor agrees to pay said liquidated damages as herein provided; and in case the same are not paid, agrees that the City may deduct the amount thereof from any moneys due or that may become due the Vendor under this proposal.

Partial payments paid to the Vendor after the scheduled completion dates shall not be constituted as a waiver of the City's right to assess liquidated damages.

5. **Firm Prices:** All quotes will be held firm for a minimum of thirty (30) days after the bid due date listed above to allow adequate time for the City to consider each bid and make an award. All blanks for unit price and total price shall be completed. Any discrepancy between the unit price and the extended or total price shall be determined by taking the lower price. Upon receipt of this bid by the City, the Vendor shall be presumed to be thoroughly familiar with all the aspects of this proposal, including installation sites and all specifications and requirements of this proposal. The failure or omission to examine any location, equipment, form, instrument or document shall in no way relieve Vendor from any obligation in respect to this bid.

6. **Warranty:** The delivered or installed goods, equipment or services shall be warranted to be free from defects in material and workmanship. The warranty period shall begin upon acceptance by the City. As a minimum, all goods, equipment and services shall be warranted to operate satisfactorily in accordance with the requirements of these specifications, representations of the Vendor and the published specifications of the manufacturer(s) for a period of at least one (1) year. Any defective goods, equipment or services shall be replaced or repaired quickly at the City's location during the warranty period at no expense to the City. If repairs cannot be made at the City's location, the Vendor shall transport/ship the equipment to a repair facility. All repairs must be completed and the equipment returned to the City within seventy-two (72) hours of a call for service. If the Vendor fails to have the equipment repaired within seventy-two (72) hours, the Vendor shall provide an equal "loaner" piece of equipment until the City's equipment is returned in operating condition.

7. **Prevailing Wages:**

☐ Required ☒ Not Required

If required, notice is hereby given that the latest general prevailing rate of per diem wages, as determined by the Director or the Department of Industrial Relations, State of California, is to be paid to the various craftsmen and laborers employed in the construction of this project and is made a part of the specifications and contract for this project.

Reference is hereby made to copies of the general rate of per diem wages as determined by the Director of the Department of Industrial Relations on file in the Department of Public Works, City of Mountain View, which are available to any interested party.

For failure to pay the prevailing wages, the contractor shall forfeit, as a penalty, to the City, Fifty Dollars (\$50) for each workman for each calendar day or portion thereof who is paid less than the stipulated prevailing wage for work done under this contract, in violation of the provisions of the Labor Code, Sections 1770 to 1780, inclusive. In addition to said penalty, the contractor, or subcontractor, shall pay to each worker the difference between the prevailing wage and the amount paid to said worker for each calendar day for which said worker was paid less than the prevailing wage.

8. **MSDS:** General Industrial Safety Order 5195 requires Material Safety Data Sheets (MSDS) be supplied, for all applicable items, with the initial delivery.
9. **Licensed Contractor:** All contractors bidding on work requiring a State of California Contractor's License must state under penalty of perjury that they are a licensed contractor by listing their license number, date of expiration, type of license and description of that type of license.

Contractor's License No.: _____

Date of Expiration: _____

Type of License: _____

Description of License: _____

10. **Ownership and Collusion – Financial Interest by City Employees:** The Vendor certifies, by signing this bid, that he/she has not, directly or indirectly, been collusive with any other vendor or anyone else interested in this bid. Additionally, the Vendor stipulates that no City officer or employee shall be financially interested, either directly or indirectly, in any contract, sale, purchase or lease to which the City is a party, and the Vendor stipulates that no City officer or employee has greater than five percent (5%) ownership in this company, as per Section 706 of the City of Mountain View Charter.
11. **Assignment:** Any purchase order issued as a result of this bid may not be assigned without written consent of the City.
12. **Termination:** Any purchase order issued as a result of this bid may be terminated by the City at any time with ten (10) days' written notice. The City will only pay for any goods or services ordered and accepted by the City. Any payments made in advance will be returned to the City on a prorated basis with the City only paying for those goods or services actually provided.
13. **Funding Out Clause:** Any purchase order issued as a result of this bid may be terminated every June 30 based upon the City Council not funding the purchase of goods or services to be provided in this bid after each July 1.
14. **Nondiscrimination:** The Vendor shall afford equal employment opportunities for all persons without discrimination because of race, color, religion, sex, sexual orientation, political affiliation, national origin, ancestry, age, marital status or physical or mental disability.
15. **Applicable Laws and Attorneys' Fees:** This Agreement shall be construed and enforced pursuant to the laws of the State of California. Should any legal action be brought by a party for breach of this Agreement or to enforce any provision herein, the prevailing party of such action shall be entitled to reasonable attorneys' fees, court costs and such other costs as may be fixed by the court. Reasonable attorneys' fees of the City Attorney's Office, if private counsel is not used, shall be based on comparable fees of private attorneys practicing in Santa Clara County.
16. **Subcontractors:** The City prefers a proposal with a single or primary vendor. If you propose a multi-vendor or subcontracted approach, clearly identify the responsibilities of each party and the assurances of performance you offer. The Vendor is the prime contractor and is solely responsible for all of the Vendor's subcontractors.
17. **Insurance:**
 - a. **Commercial General Liability/Automobile Liability Insurance:** The Vendor shall obtain Commercial General Liability insurance and Automobile Liability insurance in the amount of One Million Dollars (\$1,000,000) per occurrence. If a general aggregate limit is used, either the general aggregate limit shall apply separately to this contract or the general aggregate limit shall be twice the required occurrence limit. The Vendor's insurance coverage shall be written on an occurrence basis.

b. Professional Liability Insurance:

☐ Required ☒ Not Required

If required, the Vendor shall obtain Professional Liability insurance in the amount of One Million Dollars (\$1,000,000) per occurrence. Professional Liability insurance must be maintained and evidence of insurance shall be provided to the City for at least three (3) years after completion of work.

- c. Workers' Compensation Insurance: The Vendor shall obtain statutory Workers' Compensation insurance and Employer's Liability insurance in the amount of One Million Dollars (\$1,000,000) per accident.
- d. Acceptability of Insurers: Insurance is to be placed with insurers with a current *Best Rating* of A:VII unless otherwise acceptable to the City.
- e. Verification of Coverage: Insurance, deductibles or self-insurance retentions shall be subject to the City's approval. Original Certificates of Insurance with endorsements shall be received and approved by the City before work commences, and insurance must be in effect for the duration of the contract. The absence of insurance or a reduction of stated limits shall cause all work on the project to cease. Any delays shall not increase costs to the City or increase the duration of the project.
- f. Other Insurance Provisions:
- (1) The City of Mountain View, its officers, officials, employees and volunteers are to be covered as additional insured by Endorsement CG 20 10 11 85 for Commercial General and Automobile Liability coverage.
 - (2) For any claims related to this project, the Vendor's insurance coverage shall be primary and any insurance or self-insurance maintained by the City, its officers, officials, employees and volunteers shall not contribute to it.
 - (3) Each insurance policy required shall be endorsed that a thirty (30) day notice be given to the City in the event of cancellation or modification to the stipulated insurance coverage.
 - (4) In the event the Vendor employs subcontractors as part of the work covered by this Agreement, it shall be the responsibility of the Vendor to ensure that all subcontractors comply with the same insurance requirements that are stated in this Agreement.

18. **Hold Harmless:** The Vendor hereby agrees to and shall indemnify, defend and hold the City, its officers, agents and employees harmless from any liability for damage or claims for damage for personal injury, including death and/or property damage, caused by negligent acts, errors or omissions in performance of professional services under this Agreement by the Vendor or the Vendor's contractors, subcontractors, agents or employees' operations under this Agreement. The City shall cooperate reasonably in the defense of any action, and the Vendor shall employ competent counsel, reasonably acceptable to the City Attorney.

19. **Reliance Upon Professional Skill:** It is mutually agreed by the parties that the City is relying upon the professional skill of the Vendor, and the Vendor represents to the City that its work shall conform to generally recognized professional standards in the industry. Acceptance of the Vendor's work by the City does not operate as a release of the Vendor's said representation.
20. **Extending Contract Pricing:** The successful Vendor will extend bid pricing as quoted herein to other political subdivisions (i.e., cities, counties, school districts, etc.).
☐ Yes ☐ No
If prices bid herein are offered to other political subdivisions, additional delivery charges, if any, must be negotiated between the political subdivision and the Vendor.
21. **Entire Agreement:** This Agreement contains the entire understanding between the parties with respect to the subject matter herein. There are no representations, agreements or understandings (whether oral or written) between or among the parties relating to the subject matter of this Agreement which are not fully expressed herein. If the attachments or exhibits to this Agreement, if any, are inconsistent with this Agreement, this Agreement shall control.
22. **Signatures:** The undersigned understands and agrees that the conditions set forth in the instructions to vendors, the terms and conditions and the specifications, together with the bid and any other documents submitted in response to the foregoing, shall form a part of and be construed with the purchase order/contract.

VENDOR:

_____ Company Name	_____ Street Address of Company
_____ Signature of Officer	_____ City, State, Zip
_____ Printed Name of Officer	_____ Telephone No./Fax No.
_____ Title of Officer	_____ Federal I.D. Tax Number

City of Mountain View

27' Bookmobile Specifications

Version 1.5

Released: 20-Aug-04

Project #: SVS00151

**Prepared for: Karen Burnett – Library Services Director
City of Mountain View Public Library
585 Franklin Street
Mountain View, CA 94041-1998**

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1. GENERAL SPECIFICATIONS

1.1. Scope

- 1.1.1. The intent of this specification is to describe the construction of one (1) 27-foot (approximate) front-engine forward control “step van” style vehicle into a Bookmobile for use by the City of Mountain View Public Library (“Library”). The unit shall be built on a 25,900 lb. low-profile chassis for adequate support of the conversion as well as a diversified collection of approximately 2,500 items.
- 1.1.2. The Bookmobile described herein is intended to provide contemporary mobile library services in an operationally efficient manner including stops at day care centers, senior living complexes and corporate stops. As the vehicle is being primarily funded by a grant from Google, it is imperative that the unit incorporate the latest technologies and construction techniques while being flexible enough to serve different groups. This project has high visibility within the community and perhaps nationally, because of the corporate support and focus.
- 1.1.3. The successful vendor shall furnish all materials not specifically denoted as “customer supplied”, as well as the labor to complete the conversion of the Bookmobile specified herein, as shown on the attached drawings, or as required to complete and/or exceed the general intent of these specifications.
- 1.1.4. These specifications have been developed by Specialty Vehicle Services (“SVS”) in conjunction with the Library. SVS will further consult with the Library on all aspects of this project and conduct nearly all vendor relations as well as manage and inspect the construction of the vehicle once award is made.

1.2. Brand Names

- 1.2.1. Any reference to a specific manufacturer or make or model of product not followed by “or equivalent” or “or equal” may not be substituted. The particulars listed within this specification shall be considered minimal, and the vendor is expected to increase them where necessary to meet or exceed the general intent.

1.3. Contacts

- 1.3.1. This project is being managed by Specialty Vehicle Services on behalf of the Library. All technical correspondence shall be directed to:

Specialty Vehicle Services
Attn: Michael Swendrowski
W194 S8374 Summeridge Court

Muskego, WI 53150
Phone: 262.679.9096
Fax: 262.679.2066
Email: mswendrowski@vehiclesuccess.com
Web: <http://www.vehiclesuccess.com>

1.4. Inspections

1.4.1. Pre-delivery Inspection

- 1.4.1.1. Equipment/vehicle(s) shall be inspected at vendor's place of business post production (pre-delivery) by an authorized representative of SVS for workmanship, appearance, proper functioning of all equipment and systems, and conformance to all other requirements of this specification. If deficiencies are detected, the vehicle will be rejected and the vendor will be required to make the necessary repairs, adjustments, or replacements. Payment and/or the commencement of a discount period (if applicable) will not be made until the defects are corrected and the vehicle re-inspected and accepted. If the equipment/vehicle(s) is inspected after delivery and rejected because of deficiencies, it shall be the vendor's responsibility to pick up the vehicle, make the necessary corrections, and re-deliver the vehicle for inspection and acceptance.
- 1.4.1.2. The cost of these inspections shall be the responsibility of the Library and/or SVS.

1.5. Manuals and Documentation

- 1.5.1. The following shall be provided for each unit at the time the equipment is delivered:
 - 1.5.1.1. Two (2) each technical service manual sets for the chassis, body, generator, inverter, and each component installed. Vendor shall include all manufacturer updates for the first year of service.
 - 1.5.1.2. Two (2) each visual parts books or two (2) CD ROM sets if books are not available for the body, chassis, generator, and inverter.
 - 1.5.1.3. One (1) line set for chassis.
 - 1.5.1.4. Two (2) complete sets of conversion electrical schematics "as delivered".
 - 1.5.1.5. One (1) certified California weight ticket issued at point of entry; front, rear and total.

- 1.5.1.6. One (1) California Housing Authority insignia certifying vehicle compliance to applicable California construction standards.
- 1.5.1.7. Three (3) complete key sets (ignition, doors, auxiliary locks, compartments, fuel) including remote control devices as applicable; maximum keys per set shall be five (5).
- 1.5.1.8. One (1) complete dimensional layout drawing of interior front, rear, and both sides.

1.6. New Equipment

- 1.6.1. Equipment shall be new (unused), and of manufacturer's current model year production and shall comply with all applicable Federal environmental, motor vehicle, and safety regulations. The conversion shall be equipped with all features and accessories considered standard for the make and model vehicle/equipment provided as well as those specifically detailed within this specification.

1.7. Quality & Standards

- 1.7.1. Conversion accessories shall be built and assembled in accordance with the specifications and shall conform to the best standard practices in the industry at the time of construction. All dimensions, weight, and performance values shall be in accordance to SAE J732c and J742b, as last revised. Dimensions, weights, and performance values determined by tests other than those stipulated under SAE J732c and J742b are not acceptable. The vendor will provide all systems integration and testing. All electronics will be installed, fully operational, and tested by the vendor. The vehicle shall be equipped with all features and accessories considered standard for the make and model vehicle/equipment provided.
- 1.7.2. Completed vehicle shall comply with all applicable California codes including title 25 certification.
- 1.7.3. All equipment and construction methods shall meet all applicable regulations of the Occupational Safety and Health Act (OSHA), Federal Motor Vehicle Safety Standards (FMVSS), Department of Transportation (DOT), National Electrical Code (NEC), Federal and State noise and pollution control restrictions, and all other applicable local, state and/or federal regulations in effect at the time of execution.
- 1.7.4. All workmanship, welding, and construction shall be in the best manner of the trade. Workmanship shall be subject to inspection and approval by the Library and/or SVS.
- 1.7.5. Welding fillets shall have good penetration, good fusion, good appearance, and shall show no cracks or undercutting.

1.8. Training

1.8.1. Vendor shall provide in service training and familiarization for operators and maintenance personnel. Training shall be conducted by factory-trained personnel and shall be comprehensive enough to allow Library staff to operate and City staff to maintain the equipment provided with maximum safety and design efficiencies.

1.8.1.1. Training shall occur at the Library or City facilities (TBD) approximately two (2) weeks post-delivery at a pre-arranged meeting.

1.8.1.2. Training shall be conducted over two (2) 8-hour business days.

2. VEHICLE SPECIFICATIONS

2.1. Intent

- 2.1.1. It is the intent of the following section to describe the type of body and chassis that shall be secured for conversion. Accessories and construction techniques not specifically mentioned herein, but necessary to furnish a complete unit ready for immediate use shall also be included.
- 2.1.2. Completed Bookmobile height must not exceed 135" (11' 3").

2.2. Type

- 2.2.1. The body/chassis shall be a current model year Union City Body Company FCC MT55 Y05180 or equivalent step van body built on a Freightliner MT55 or equivalent series front engine walk-in van chassis. Chassis, body and accessories shall be built and assembled in accordance with the specifications and shall conform to the best standard practices in the industry at the time of construction.

2.3. Capacities/Dimensions

- | | | |
|---------|--------------------------|----------------------------|
| 2.3.1. | Overall exterior length: | 325.21" (bumper to bumper) |
| 2.3.2. | Overall exterior width: | 95.99" (excluding mirrors) |
| 2.3.3. | Overall exterior height: | 135" (including ACs)* |
| 2.3.4. | Interior length: | 213.44" (load space) |
| 2.3.5. | Interior height: | 84.00" |
| 2.3.6. | Interior width: | 86.86" |
| 2.3.7. | Floor height: | 38.44" |
| 2.3.8. | Wheelbase: | 190.00" |
| 2.3.9. | Ground Clearance: | 17.36" (typical) |
| 2.3.10. | Fuel tank capacity: | 60.00 gallons |
| 2.3.11. | GVWR: | 25,900 lbs.** |

*** Completed height must not exceed 135"**

**** Shall not exceed 26,000 lbs.**

2.4. Chassis

2.4.1. Engine

- 2.4.1.1. Cummins ISB-02 5.9L or equivalent 260-hp @2500RPM, 550 lb. ft. of torque @ 1900 RPM.

- 2.4.1.1.1. Engine/vehicle shall be electronically governed at 60 MPH.
- 2.4.1.1.1.1. Engine shall be capable of running on #2 diesel or ultra low sulfur diesel, or bio-diesel fuel (B20) at user's discretion with no modifications.
- 2.4.1.1.1.2. Vendor shall state with response proposed engine's abilities to accommodate future hybrid fuels (such as B100) including possible modifications that may be necessary.
- 2.4.1.1.2. Engine oil check mounted on radiator.
- 2.4.1.1.3. Oil fill mounted on valve cover.
- 2.4.1.1.4. Frontal air intake.
- 2.4.1.1.5. Farr ECO SE air cleaner, rail-mounted.
- 2.4.1.1.6. Leece Neville 12V, 200 amp 4940 pad-mount alternator.
- 2.4.1.1.7. Two (2) Alliance 1131, group 31 12V MF, 1900 CCA threaded stud batteries.
- 2.4.1.1.8. Battery box mounted on outside right-hand rail.
- 2.4.1.1.9. Frame ground return & battery cables with eyelet connectors.
- 2.4.1.1.10. Electronic engine integral warning and derate protection system with low coolant.
- 2.4.1.1.11. Single horizontal inboard muffler with tailpipe exiting forward of rear axle, driver's side.
- 2.4.1.1.12. Eaton viscous fan drive.
- 2.4.1.1.13. Cummins supplied remote-mounted fuel filter & fuel/water separator with heater.
- 2.4.1.1.14. Full flow oil filter.
- 2.4.1.1.15. 680 sq. in. downflow front-mounted radiator.
- 2.4.1.1.16. Radiator mounted surge tank.
- 2.4.1.1.17. Antifreeze to -35F, ethylene glycol pre-mixed 50/50 coolant.
- 2.4.1.1.18. Gates blue stripe coolant hoses.
- 2.4.1.1.19. Radiator draincock.
- 2.4.1.1.20. Delco 12V 29-MT starter.
- 2.4.1.2. Transmission and Equipment
 - 2.4.1.2.1. Allison 2400 transmission or equivalent without PTO provision.

- 2.4.1.2.2. 5-speed automatic (non-fire emergency).
- 2.4.1.2.3. 1000/2000/2400 transmission program with 5/4/3/1 selector performance.
- 2.4.1.2.4. Water to oil transmission cooler.
- 2.4.1.2.5. Transmission oil check and fill inside engine cover.
- 2.4.1.3. Front Axle and Suspension
 - 2.4.1.3.1. Meritor FD-965 front axle, 10,000 lb. rated.
 - 2.4.1.3.2. Bosch 2.6" dual-piston hydraulic disc front brakes with ABS.
 - 2.4.1.3.3. Disc brake rotors for hydraulic brakes.
 - 2.4.1.3.4. Front oil seals.
 - 2.4.1.3.5. TRW TAS-65 power steering.
 - 2.4.1.3.6. TRW power steering pump.
 - 2.4.1.3.7. 2-quart power steering reservoir.
 - 2.4.1.3.8. 10,000 lb. rated taperleaf front suspension.
 - 2.4.1.3.9. Maintenance-free rubber bushings.
 - 2.4.1.3.10. Front swaybar.
 - 2.4.1.3.11. Two (2) Gabriel front shock absorbers.
- 2.4.1.4. Rear Axle and Suspension
 - 2.4.1.4.1. Meritor RS-19-145 single rear axle, 19,000 lb. rated
 - 2.4.1.4.2. 4:10 axle ratio.
 - 2.4.1.4.3. Iron rear axle carrier housing.
 - 2.4.1.4.4. SPL 100 Dana Spicer main driveline with half-round yokes.
 - 2.4.1.4.5. Bosch 2.6" dual-piston hydraulic disc rear brakes with ABS.
 - 2.4.1.4.6. Rear disc brake rotors.
 - 2.4.1.4.7. Rear oil seals.
 - 2.4.1.4.8. 20,000 lb. rated flat leaf spring suspension.
 - 2.4.1.4.9. Transmission-mounted parking brake - manually applied.
 - 2.4.1.4.10. Rear swaybar.
 - 2.4.1.4.11. Two (2) Gabriel rear shock absorbers.
- 2.4.1.5. Frame
 - 2.4.1.5.1. 5/16" X 2.81" x 9-1/8" steel frame, 50,000 PSI, 10.8 section modulus.
 - 2.4.1.5.2. Square frame end.

- 2.4.1.5.3. Standard rearmost crossmember.
- 2.4.1.5.4. 105" rear frame overhang.
- 2.4.1.5.5. Drilling prep for 93" wide body supports.
- 2.4.1.6. Fuel Tank and Equipment
 - 2.4.1.6.1. 60-gallon rectangular aluminized steel tank, mounted between rails behind rear axle, left-hand fill.
 - 2.4.1.6.2. Reinforced nylon fuel hose throughout.
- 2.4.1.7. Front Tires, Hubs & Wheels
 - 2.4.1.7.1. Two (2) Goodyear G647 RSS 245/70R 19.5, 14-ply.
 - 2.4.1.7.2. Gunitite iron front hubs.
 - 2.4.1.7.3. Two (2) Accuride 28680 19.5X6.75 8-hub pilot 4-hand steel disc front wheels.
 - 2.4.1.7.3.1. Polished stainless steel wheel liners shall be installed on all outboard wheels.
 - 2.4.1.7.4. Front wheel mounting nuts.
- 2.4.1.8. Rear Tires, Hubs & Wheels
 - 2.4.1.8.1. Four (4) Goodyear G647 RSS 245/70R 19.5, 14-ply.
 - 2.4.1.8.2. Gunitite iron rear hubs.
 - 2.4.1.8.3. Four (4) Accuride 28680 19.5X6.75 8-hub pilot 4-hand steel disc rear wheels.
 - 2.4.1.8.3.1. Polished stainless steel wheel liners shall be installed on all outboard wheels.
 - 2.4.1.8.4. Rear wheel mounting nuts.
- 2.4.1.9. Spare Tire
 - 2.4.1.9.1. One (1) Accuride 28680 19.5X6.75 8-hub pilot 4-hand steel wheel with one (1) Goodyear G647 RSS 245/70R 19.5, 14-ply mounted to wheel. Ship loose with completed vehicle.
- 2.4.1.10. Instruments and Controls
 - 2.4.1.10.1. Black instrument panel.
 - 2.4.1.10.2. TRW tilt/telescopic steering column with foot actuated pedal.
 - 2.4.1.10.3. 4-spoke, 18" diameter charcoal steering wheel (50° wheel cut).
 - 2.4.1.10.4. Cruise control.

- 2.4.1.10.5. Double-sided heavy-duty ignition switch with 4-position (off/run/start/accessory) and integral start.
- 2.4.1.10.6. Integrated speedometer message center LCD display, data linked.
- 2.4.1.10.7. Electronic fuel level gauge.
- 2.4.1.10.8. Multiplexed engine coolant temperature gauge.
- 2.4.1.10.9. Transmission oil temperature gauge.
- 2.4.1.10.10. Engine hourmeter integral to message center LCD display.
- 2.4.1.10.11. Multiplexed engine oil pressure gauge.
- 2.4.1.10.12. Multiplexed speedometer with LCD message display odometer (MPH)
- 2.4.1.10.13. Multiplexed tachometer, 3000 RPM
- 2.4.1.10.14. Multiplexed voltmeter.
- 2.4.1.10.15. Two (2) Wagner 7212 turn signal flashers.
- 2.4.1.10.16. All driver controls shall comply with FMVSS 101.
- 2.4.1.11. Miscellaneous Equipment
 - 2.4.1.11.1. Rust prevention coating - chassis.
 - 2.4.1.11.2. Automatic self-reset circuit breakers and fuses.
 - 2.4.1.11.3. Single electric horn.

2.5. Body

- 2.5.1. Union City Body Company FCC MT55 Y05180 or equivalent.
- 2.5.2. #C21001 "Freightliner" style upward-lifting fiberglass hood.
- 2.5.3. Rear 12" Grate-X step bumper painted black with wrap-around anti-snap ends.
- 2.5.4. One-piece fiberglass or aluminum roof.
- 2.5.5. Two-piece lower aluminum side panels.
- 2.5.6. Horizontal aluminum "I" beam extrusion ceiling supports on 16" centers.
- 2.5.7. Vertical aluminum "I" beam extrusion side posts on 16" centers.
- 2.5.8. ABS front grill and headlight bezels.
- 2.5.9. Clearance and ID recessed LED roof lamps.
- 2.5.10. LED turn, stop and back-up lamps.

- 2.5.11. Velvac 712719 (LH) and 712718 (RH) or equivalent 12VDC remote control, adjustable arm mirrors shall be installed with a 747198 control kit. Mirror heads shall be black, approximately 13"H x 8"W and feature a 50.25 sq. in. flat mirror and 22.7 sq. in. convex mirror with a 21" spherical radius.
- 2.5.12. 19.5° sloped windshield with one-piece rubber seal.
- 2.5.13. Wet arm windshield wiper system, two-speed with intermittent.
- 2.5.14. Two (2) minimum 30"x6" tinted acrylic sunvisors with double-action arms; one (1) mounted driver's side, one (1) mounted passenger side.
- 2.5.15. Removable drivers floor for service access to transmission.
- 2.5.16. Insulated fiberglass (black textured) snap-out engine cover with parcel tray.
- 2.5.17. Cab headlining and insulation, mats in toe area, and dash.
- 2.5.18. Aluminum extruded load space floor planks.
- 2.5.19. One (1) 32" wide driver's side "sedan type" front entry door with step well.
 - 2.5.19.1. Door interior shall be finished to compliment interior.
 - 2.5.19.2. Door shall be fitted with over-travel limiting device(s).
 - 2.5.19.3. Door shall utilize continuous stainless steel hinge and slam-lock locking hardware.
 - 2.5.19.4. Door shall have upper horizontal sliding window.
 - 2.5.19.5. One (1) Yale 112 series or equivalent heavy-duty latchbolt shall be installed in addition to the slam lock.
- 2.5.20. No passenger side front entry door.
- 2.5.21. One (1) 32" x 80" passenger side "sedan type" mid entry (patron) door placed per drawings.
 - 2.5.21.1. Door shall be fitted with a double acting pneumatic operator to allow power operation when the door latch is held back. System shall provide safe and slow control of the door utilizing a linear actuator, valve, flow control and throttle valve combined in pneumatic circuits to closely duplicate the forces normally needed to accomplish this task.
 - 2.5.21.1.1. System shall be operable via remote control and/or installed palm button.
 - 2.5.21.1.2. System shall allow normal door operation without increased friction in manual mode.
 - 2.5.21.1.3. System shall act as a door control and stay open device in addition to movement actuation.

- 2.5.21.1.4. System shall include a manual override so that the system may be activated without the use of remote controls or electricity in the case of emergency.
- 2.5.21.1.5. Reference: <http://www.gentlemandoor.com>
- 2.5.21.2. Door interior shall be finished to compliment interior.
- 2.5.21.3. Door shall have deep tinted safety glass upper horizontal sliding window and deep tinted safety lower fixed-pane window.
- 2.5.21.4. Door shall utilize continuous stainless steel hinge.
- 2.5.21.5. One (1) Yale 2100 series or equivalent flatbar exit device shall be installed. Device shall be listed by Underwriters Laboratory (UL) for safety as panic hardware and meet Federal Specification FF-H-1820 and ANSI A156.3, grade 1.
- 2.5.21.6. One (1) Yale 112 series or equivalent heavy-duty latchbolt shall be installed in addition to the exit device.
- 2.5.21.7. Step well shall be a two-step configuration with minimum 11" deep treads and maximum 9" risers. Each step shall incorporate heavy-duty, slip resistant commercial rubber step tread reinforced with aluminum back. The front edge of each tread shall incorporate a 2" safety yellow edge.
- 2.5.21.8. Door/step well area shall be outfitted with a total of four (4) 1.25" diameter stainless steel handrails to provide solid entry/egress assistance.
 - 2.5.21.8.1. One (1) 36" approximate length handrail shall be installed vertically on the exterior, just aft of the door.
 - 2.5.21.8.2. Two (2) angle-mounted handrails shall be installed one each side of the step well.
 - 2.5.21.8.3. One (1) angle-mounted handrail shall be installed to the interior of the door below the upper window.
- 2.5.22. High-output 40,000 BTU heater/defroster with dash-mounted automotive type heater controls.
- 2.5.23. Rear back-up alarm, 112db, installed behind rear axle.
- 2.5.24. Driver and passenger seats shall be high back, deluxe type seats with adjustments for fore/aft, height and recline.
 - 2.5.24.1. Driver and passenger seats shall swivel and lock at a position facing the desk.
 - 2.5.24.2. Seats shall include FMVSS approved and installed, three-point seat belt systems with easily detachable shoulder straps to allow ease of rotation.

- 2.5.24.3. Seats shall meet FMVSS302 flammability standards. Fabric/finish shall be selected by the Library.
- 2.5.24.4. Seats shall be positioned and installed to allow drivers varying in size from 5'0" tall weighing 95lbs. to 6'0" tall weighing 250lbs. to be equally comfortable in using all controls required to safely operate and maneuver the vehicle.
- 2.5.25. Entire body shall be finished with DuPont Imron 5000 or equivalent paint. Color to be chosen by the Library.
- 2.5.26. LLumar or equivalent UV Shield window film shall be applied to the vehicle windshields and driver/passenger area front windows (those that cannot be dark tinted) to provide 99.9% protection from harmful UV and UVB rays. Film shall be virtually clear, legal for use in automotive applications in all 50 states, and have a lifetime warranty against bubbling, peeling or cracking

3. CONVERSION SPECIFICATIONS

3.1. Exterior

- 3.1.1. Six (6) Hehr 8720 or equivalent half-slide windows shall be installed in the upper sidewall panels to allow natural light and ventilation above interior bookcases.
 - 3.1.1.1. Shall be 12" x 6" (approximate) laminated safety glass.
 - 3.1.1.2. Windows shall be dark tinted with fiberglass screens.
- 3.1.2. One (1) 60" x 10" approximate tempered glass radius window shall be centered above the vehicle windshield with internal mounting brackets to support the Alpha 4200C message display system.
 - 3.1.2.1. Glass shall be a light tinted fixed pane and installed using a self-sealing SBR or EPDM rubber "pinch seal" extrusion.
- 3.1.3. Three (3) 14" x 22" single dome white acrylic skylights shall be installed with white PVC interior trim.
- 3.1.4. One (1) Kwikkee 39 series powered auxiliary step shall be installed at the passenger side entry door.
 - 3.1.4.1. Step tread shall be modified to a 12" depth.
 - 3.1.4.2. Step shall be finished with a non-skid surface and a safety yellow, non-skid front strip.
 - 3.1.4.3. Step shall include an audible/visual indicator system to warn the driver that the step is extended when the ignition key is activated.
 - 3.1.4.4. Step shall be controlled at the driver's area.
- 3.1.5. One (1) A&E WeatherPro or equivalent, 18' approximate length awning shall be installed on the passenger side of the vehicle. Unit shall feature touch button control from either the interior mounted switch or the key-fob style remote.
 - 3.1.5.1. Unit shall include solid-state sustained wind sensor to automatically retract canopy.
 - 3.1.5.2. Unit shall utilize a knee action design to prevent damage from sudden wind gusts and automatically dump accumulating rain water.
 - 3.1.5.3. Unit shall self lock in travel position and be covered by a metal weather shield.
 - 3.1.5.4. Unit shall include an ignition interlock system to prevent the vehicle from being started when the awning is deployed.
 - 3.1.5.5. Unit shall have a wireless remote control in addition to installed switch.

- 3.1.5.6. Color shall be chosen by the Library.
- 3.1.6. Two (2) storage compartments shall be installed below floor line as depicted in the concept drawings. Compartments shall be weather tight with a lockable, top-hinged aluminum door.
- 3.1.7. One (1) generator carriage/compartments shall be fabricated to mount and enclose the generator. This thru-floor compartment shall have an insulation barrier installed on its inner surfaces to further isolate generator noise, heat and fumes from the main cabin. Generator mounting shall be configured to allow easy access to the top access panel of the generator for service, as well as easy removal of the unit for overhauls. This carriage/compartments system shall maintain a minimum 12" ground clearance. The design of this system is subject to prior approval. This compartment shall be located forward of the rear axle, driver side.
- 3.1.8. One (1) underbody auxiliary battery compartment shall be installed to house the eight (8) auxiliary batteries (*reference section 3.4.2*). Compartment shall be configured with slide trays to allow ease of battery maintenance and a ventilated aluminum door.
- 3.1.9. One (1) underbody shore cord/mechanical compartment shall be installed to house the inverter, transfer switch and shore cord. This compartment shall be ventilated to allow the inverter heat to escape and contain provisions for re-securing the aluminum door if the shore cord is deployed.
- 3.1.10. Vehicle underbody shall be fully undercoated with rubberized spray to provide additional sound resonance dampening and underbody insulation protection.
- 3.1.11. Where the vehicle is cut or modified, or additional fabricated components are added to the exterior, exposed metal shall be properly prepared and painted to match vehicle exterior color.
 - 3.1.11.1. Panels shall be properly cleaned and prepared for paint application in accordance with standard commercial practice and to requirements of the construction materials involved. Surfaces shall be properly cleaned and inspected before cover materials are applied.
 - 3.1.11.2. The prepared surfaces shall be spray primed with synthetic base primer, which contains corrosion resistant pigments and resins. Extra coats shall be applied around moisture catching moldings, etc. All hidden areas such as overlapping metal, underside of moldings, underside or rubber extrusions at windows shall be cleaned and primed and where necessary and caulked with sealing compound during construction.
 - 3.1.11.3. Two (2) or three (3) evenly applied coats of DuPont Imron 5000 or equivalent paint, two (2) for dark colors and three (3) for light

colors, shall be applied to all areas of the metal. Each coat shall be properly dried and evenly sanded before the following coat is applied. "Orange peel" surfacing will not be acceptable.

3.2. Interior

- 3.2.1. The Bookmobile interior shall be designed to accommodate our collection, which includes but is not limited to: books of various sizes, DVDs, CDs, videos, books on tape, books on disc, oversized materials of odd shapes, magazines, etc.
- 3.2.2. Vehicle ceiling, walls and underbody shall be insulated with 2" nominal thickness sprayed-in urethane foam insulation.
 - 3.2.2.1. Underbody foam insulation shall be protected from road spray and elements by an additional layer of rubberized automotive undercoating.
- 3.2.3. Vehicle ceiling shall be sub-paneled with 3/8" hardwood plywood and overlaid with acoustical fabric or padded vinyl finish. The fabric and padding (if applicable) shall be applied in a manner consistent with the lifetime of the vehicle. Color and texture of fabric shall be selected by the Library from the vendor's standard offerings.
- 3.2.4. All floor covering furnished shall meet Federal GSA specification Z-M-71b and ASTM-E-648 addressing fire and flame retardant and smoke suppression. Floor covering shall also be a low maintenance; quick and easy to clean type material. Sub-flooring shall be properly prepared prior to installation of the floor covering. Shall be a high quality, heavy-duty, long-life commercial grade carpet. Carpet furnished shall be anti-bacteria, mold, mildew, and insect resistant rated as well as low static rated and long-life abrasion-resistant rated. To prevent staining, carpet material shall not absorb spilled liquids into the fiber. Carpet yarns and fibers shall also be long-life colorfast rated to prevent premature color fading. The Library will select color of carpet from vendor's offerings. Material shall be 100 percent advanced generation olefin type yarn; minimum 3, 26 oz. rated heavy-duty size. Carpeting furnished shall be wear warranted by its manufacturer for a minimum of ten years in high usage commercial type service.
- 3.2.5. Since a bookmobile is a mobile library, and a quiet environment is most important in the successful operation of any library, all interior finishes shall contribute to absorbing ambient sounds. Appropriate panels, ceiling and flooring shall have superior acoustic qualities in addition to durability and aesthetics. Sound control measures shall comply with the Occupational Safety and Health Act (OSHA) sound level (dba) requirement in effect at time of award of contract, for an eight (8) hour maximum operator exposure time; measured at operator's ear with engine at governed RPM.

- 3.2.6. Interior storage compartments shall be provided in the windshield header area and above the desks with lockable bulletin board type doors per final design. Storage compartments shall include key locks that are keyed alike to the exterior compartments.
- 3.2.7. Cork type fabric covered bulletin boards shall be installed in the vehicle, mounted firmly and securely to the walls. Number and size of bulletin boards furnished shall be determined by the exact configuration of interior. Bulletin boards shall be as large as possible and installed where space is available inside the coach. Smaller spaces and trim areas shall be finished in complimenting materials. All upholstery used within the vehicle shall meet provisions of FMVSS-302
- 3.2.8. Two (2) desks shall be furnished; one each behind the driver and passenger seats in the front section. Desks shall be constructed of furniture-grade plywood with the same finish as that of the bookshelves. Desktops shall be constructed of minimum 3/4" thick furniture-grade plywood with a high-impact laminated plastic bonded to the plywood and installed to allow easy removal and replacement as these surfaces are subject to excessive wear and tear. Desks shall be appropriately configured for installation of technologies by the Library, including cable pass-through grommets and defined wire paths from desktop to other locations as designated.
- 3.2.9. All bookshelves shall be constructed from superior grade materials and be built to withstand the unique stresses imposed by a mobile environment. The shelving layout shall be designed to accommodate approximately 2,500 items, which includes but is not limited to: books of various sizes, DVDs, CDs, videos, books on CD, oversized materials of odd shapes, magazines, etc. Shelving shall allow for easy access to body wiring and concealed components. All shelving running along the sidewalls of the coach shall slope 15 degrees inward. All shelving running along the rear wall of the coach shall slope 20 degrees inward. All shelves shall be a minimum 7.5 inches deep and be constructed of minimum 3/4" thick wood.
 - 3.2.9.1. The wood used in all vertical uprights shall be a minimum 1-inch thick. With the exception of the shelves located in the wheel well areas, all shelves shall be a maximum of 36 inches wide. Shelves over the wheel wells shall be a maximum 48 inches wide and shall also be adjustable type. With the exception of the lowest (bottom) shelves, all shelves shall be adjustable. Vertical spacing between shelves shall be on 10-1/2" centers and vertically adjustable up or down continuously on maximum 1.5-inch centers. The hardware used to allow adjustability shall positively secure the shelving in the selected location to prevent accidental dislodging of the shelf in transit. All wood shall be finished to "high-end" furniture quality with wood finish color chosen by the Library. Exact sizes and locations shall be authorized by the Library prior to installation.

- 3.2.9.2. It is anticipated that there be a combination of standard and oversize shelves included in all shelving sections. The oversize shelves shall include removable dividers to aid in the storage of odd size books and magazines.
- 3.2.9.3. Seven (7) extra shelves shall be provided and shipped loose with the completed Bookmobile. The size of these shelves shall be determined by the Library.
- 3.2.9.4. Finish, cabinetry and component mounting shall allow a minimum 35" aisle width.
- 3.2.9.5. Final configuration of the interior shelving and cabinetry shall be subject to approval of the Library prior to installation.
- 3.2.10. A minimum of four (4) display racks for magazines, flyers and brochures shall be provided. Racks shall be capable of displaying a variety of materials and include removable dividers. Exact size, number, and location shall be determined by the Library.
- 3.2.11. A slat board display area shall be included within the rear wall shelving units. Slat board material shall replace the bookcase backs to allow display of materials upon removal of shelving.
- 3.2.12. One (1) book return slot and bin shall be included. Slot shall be placed in the rear-facing vertical panel of the passenger's desk in association with the collection bin. The collection bin shall be constructed of furniture-grade plywood and include caster type wheels for ease of movement. Final design, dimensions, and placement shall be approved by the Library prior to installation.

3.3. Electrical System – AC

- 3.3.1. System shall be a 120/240-volt rated, single-phase type system designed to provide and distribute electrical power at a level of performance that meets the requirements of all components and/or accessories utilizing such power throughout the vehicle.
 - 3.3.1.1. System furnished shall be designed and installed to meet all requirements of the National Electrical Code (NEC), with all system components, accessories, plugs, receptacles, switches and circuit breakers being Underwriter's Laboratories (UL) listed and approved.
 - 3.3.1.2. System furnished shall also meet any and all applicable state code requirements and regulations pertaining to the design and installation of AC electrical systems.
 - 3.3.1.3. A California Housing Authority insignia certifying official inspection and acceptance of the vehicle shall be permanently affixed to the outside of the vehicle.

- 3.3.2. All AC wiring shall be installed using multi-stranded, multi-conductor flexible armored or boat rated cable; 600 volt rated, UL approved or equivalent. All wire shall be color-coded and grounded throughout the system. Aluminum wire is not acceptable due to its history of involvement in electrical system fires. Since the body and chassis of a motor vehicle is constantly flexing in torsion when in use, fixed type conduit is not acceptable due to the long-term potential electrical shorting and the resulting potential of fire hazard.
 - 3.3.2.1. Wiring and harnesses shall be installed in easily accessible locations to aid long-term serviceability and maintain a minimum 2" air-insulated clearance from parallel low-voltage wiring harnesses per NEMA standards.
 - 3.3.2.2. All wiring shall be sized using NEMA ratings to 125% of anticipated load.
- 3.3.3. One (1) Onan 12.0 HDCAD-2209A commercial-duty, 12kW three-cylinder "quiet diesel" generator shall be installed. Unit shall feature a sound insulated enclosure with enclosed muffler, microprocessor control, automatic glow plugs, single side maintenance and service, self-diagnostic capabilities, and focalized mounting system with 3-point vibration isolation.
 - 3.3.3.1. Unit shall be rated for a mobile continuous 12kW and 12kVA per ISO 3046, ISO 8528-1, and rating guideline 2.14 with a voltage regulation of +/- 1% and a frequency regulation of +/- .01%.
 - 3.3.3.2. Unit shall contain integral shut-down protection system to protect against overvoltage, low oil pressure, overtemperature, overspeed, and overload.
 - 3.3.3.3. Unit shall include one (1) Onan 300-5218 remote gauge panel mounted interior including on/off/diagnostic switch, DC voltmeter, water temperature gauge, oil pressure gauge and hourmeter.
 - 3.3.3.4. Unit shall draw its fuel from the main vehicle fuel tank through a separate tap that does not allow the generator to draw the fuel level below 1/8 tank.
 - 3.3.3.4.1. Unit shall be capable of running on ultra low sulfur B20 fuel in addition to #2 diesel with little or no modification necessary.
 - 3.3.3.5. Unit shall utilize the auxiliary battery system for starting/re-charging.
 - 3.3.3.6. Unit exhaust shall safely exit forward of the rear axle, left-hand side.
 - 3.3.3.7. Unit shall be mounted on an underbody carriage with an exterior access, ventilated aluminum door. Through-floor penetration shall utilize a hermetically sealed and sound/heat insulated aluminum enclosure to prevent ambient heat, noise and gases from entering

the interior cabin. Carriage shall include provisions for easily lowering the front of the generator for access to the top plate or completely removing the unit for major service. Generator mounting system shall maintain a minimum 12" ground clearance.

- 3.3.4. One (1) 125/250VAC, 25-foot, 50A rated, 3-pole 4-wire waterproof shore cord shall be provided.
 - 3.3.4.1. Shore cord shall be hardwired in exterior compartment.
 - 3.3.4.2. One (1) NEMA 14-50P, straight-blade, 3 pole 4 wire weather resistant grounding plug shall be provided on the loose end of the cord to plug the vehicle into an external source.
- 3.3.5. One (1) ATS3W50 or equivalent automatic transfer switch shall be installed to provide automatic switching between generator and shoreline power sources. Unit shall have a 24kW maximum rating and mechanical interlock to prevent any possibility of electrical feedback.
- 3.3.6. One (1) Xantrex SW2512MC or equivalent, heavy-duty true sine wave inverter/charger with SWRCII remote control panel and status indicator shall be installed to allow "generator off" operation of interior lighting and technology.
 - 3.3.6.1. Unit shall include a nominal 2500-watt output at 120V, three-stage battery charging (bulk, absorption, and float) with battery temperature sensor, and programmable automatic generator start/stop control.
 - 3.3.6.2. Unit shall accept between 80-149VAC and produce 2500VA continuous power at 25 degrees Celsius (120VAC +/- 5%) in a 34-52 step per cycle true sine wave, with less than 5% harmonic distortion.
 - 3.3.6.3. Unit shall be configured to use/charge the auxiliary battery bank and back up/power designated circuits as determined.
 - 3.3.6.4. Unit shall also be configured to automatically start/stop and/or exercise the on-board generator and allow power sharing based on user selected settings and/or the condition of the auxiliary battery bank.
- 3.3.7. One (1) 100A rated distribution panel shall be installed flush-mounted in the console over the windshield.
 - 3.3.7.1. One (1) secondary distribution panel shall be installed to distribute and protect the designated inverter backed/powered circuits.
 - 3.3.7.2. All AC electrical circuits shall be safety protected from short circuits and current overloading by UL approved resetting type circuit breakers, each properly capacity sized to the circuit they serve. A master circuit breaker that controls all AC electrical system circuits shall also be furnished.

- 3.3.7.3. Panel(s) shall be readily accessible, yet out of view of the general public.
- 3.3.8. A minimum of eight (8) 15A-rated, UL listed, NEMA 5-15, three-hole grounded duplex receptacles shall be furnished inside the vehicle for general and specific uses. These receptacles shall be powered directly from the generator/shore power system (not inverter-backed) and white in color.
- 3.3.9. A minimum of eight (8) 15A-rated, UL listed, NEMA 5-15, three-hole isolated ground duplex receptacles shall be furnished inside the vehicle for powering technology. These receptacles shall be backed/powered by the inverter and orange in color.
- 3.3.10. A minimum of eight (8) 48" low-energy double-tube fluorescent light fixtures shall be mounted on the interior ceiling in two (2) continuous rows set approximately 14" off-center.
 - 3.3.10.1. Lights shall be powered by the inverter system for "generator off" operation.
 - 3.3.10.2. Lights shall be switched in the driver's area.
- 3.3.11. Two (2) Duo Therm Penguin 13500 or equivalent, 13,500 BTU low-profile air conditioner/heat pump shall be installed per drawings.
 - 3.3.11.1. Units shall provide 13,500 BTUs of heat and cooling.
 - 3.3.11.2. Units shall include self-contained, low-profile ceiling assembly with integral controls.
 - 3.3.11.3. Units shall include integral branch guards to protect the units from low-hanging overhead limbs.
 - 3.3.11.4. Units shall be controlled by central thermostat in the driver's area (*reference section 3.4.9*).
 - 3.3.11.5. Units must not increase the overall height of the vehicle above 134.5"
- 3.3.12. One (1) Adaptive Micro Systems Alpha 4200C or equivalent, two-line, moving message display system shall be installed above the vehicle windshield, facing the exterior. Unit shall feature a 2.1 – 4.8 inch character size (one or two line display), store and display over 80 messages, 5 character fonts in three colors, and be keyboard programmable from 30 feet.
 - 3.3.12.1. Unit power shall be inverter backed/powered.
 - 3.3.12.2. Reference: <http://www.adaptivedisplays.com>

3.4. Electrical System – DC/Other

- 3.4.1. Shall be a 12-volt, negative ground type system designed to provide and distribute electrical power at a level of performance that meets the requirements of all components and/or accessories utilizing such power throughout the vehicle.
- 3.4.1.1. Design emphasis of system furnished shall be on both reliability and serviceability. System furnished shall be a modular type design, modular being defined as a system where major power train, chassis, body component assemblies, including lighting, wiring and switch harnesses, and heater harnesses are easily separable for purposes of repair or replacement, using either simple hand tool or automotive type plug-in connectors. Special emphasis shall be made on accessibility to all wiring harnesses in all locations. Wiring shall not be rendered un-accessible behind permanently installed panels or appointments.
 - 3.4.1.2. The power source for all body electrical equipment furnished shall be taken from a single point on the power train specifically designed for this purpose.
 - 3.4.1.3. The main ground wire grounding the body to the chassis shall be minimum 8-gauge size; all ground wires furnished for insulated-return type systems shall be equal in size to the feed wire in the respective circuit. Redundant grounds shall be used if required to attain a satisfactory level of system performance desired. For maximum system reliability, all serrated eyelets and screws or bolts utilized at points of ground shall be either coated or plated with an electrical conductive type material to improve their resistance to corrosion.
 - 3.4.1.4. All electromagnetic type switches, relays and solenoids furnished shall be suppressed to protect the entire electrical system from major damage from the large negative voltage spikes these devices can produce.
 - 3.4.1.5. All auxiliary electrical circuits shall be safety protected from current overloading by automatic resetting type heavy-duty automotive circuit breakers, each properly capacity sized to the circuit they serve. A master circuit breaker, minimum 150-amp shall also be furnished.
 - 3.4.1.6. All terminals and connectors furnished shall be designed and approved by their manufacturer for heavy-duty automotive vocational application; material shall be a corrosion-resistant type. To eliminate disconnects; all terminals furnished shall incorporate a positive locking, seated type design to assure terminal position. Socket (female side of connectors shall be wired to electrical source side of circuit and plug (male) side of connector shall be wired to electrical load side of the circuit to help prevent a short circuit when disconnected. All connections made on the vehicle

underbody shall be adequately protected against moisture and corrosion with dielectric grease, heat shrink tubing, or other similar techniques.

- 3.4.1.7. All insulated cable furnished shall comply with SAE Standards J1127 and J1128. All wiring furnished in the engine compartment area, where extreme heat and fire are of concern, shall be multi-stranded, low-voltage insulated automotive type cross-linked polyethylene fire-retardant SAE approved SXL type. All wiring furnished in the body portion of the coach shall be multi-stranded, low-voltage insulated automotive type; either SAE approved SXL or GXL types are acceptable. All wiring in each circuit shall be of sufficient size, and with 125% capacity rating of anticipated load to transmit the electrical current load of the circuit. Sizing shall take into account the length of the circuit and the voltage drop occurring in the circuit. Voltage at the load shall be +/- 5% of rated voltage when measured in a normal operating state.
- 3.4.1.8. All wiring shall be routed meeting the following minimum requirements:
 - 3.4.1.8.1. No contact with sharp or puncturing edges.
 - 3.4.1.8.2. No tension or strain between fixed points.
 - 3.4.1.8.3. Adequate and safe clearance of moving parts.
 - 3.4.1.8.4. 5-inch clearance from radiant heat sources.
 - 3.4.1.8.5. Adequately secured to prevent pinching.
 - 3.4.1.8.6. Wiring to be color-coded and numbered, grease-, oil- and moisture-resistant and securely fastened.
- 3.4.1.9. All wiring furnished shall be routed in protective harnesses, either woven vinyl or corrugated vinyl or nylon types acceptable. When harnesses go through metal structure, rubber grommets shall be used to further protect the integrity of the harnesses.
- 3.4.2. Eight (8) Interstate or equivalent, group 31 12V deep-cycle batteries shall be provided as an auxiliary battery bank for inverter and stationary 12VDC component power. Each battery shall have a minimum 210-minute reserve capacity at 25 amps.
 - 3.4.2.1. Both the vehicle alternator and the inverter/charger shall charge these batteries.
 - 3.4.2.2. A heavy-duty battery isolation system shall be installed to allow charging of both the main and auxiliary battery banks from the vehicle alternator only when the engine is running.
 - 3.4.2.3. A battery merge system including dash-mounted momentary switch shall be incorporated to allow jumping of one battery system to the other without the use of external cables.

- 3.4.3. One (1) Audiovox 1600056 or equivalent, LCD observation system shall be installed. Shall have a vibration and shock resistant mounting, waterproof, and a minimum viewing angle of 114 degrees horizontal and 90 degrees vertical. Monitor's controls shall include instant on, day/night sensitivity switch, camera selection and a standby position, which automatically changes to on when vehicle is shifted into reverse.
 - 3.4.3.1. A 5-1/2 inch (minimum) LCD monitor shall be mounted on the dash or in the dash for easy view of the driver.
 - 3.4.3.2. Shall include two (2) video cameras with sun shields and built-in microphones; one mounted to rear, one mounted curbside.
- 3.4.4. One (1) Pioneer DEH-1600 or equivalent AM/FM/CD player with four (4) Pioneer TS-A630P or equivalent 6.5", 3-way interior speakers; two (2) in the cab area and two (2) in the rear. System shall also include an exterior PA with voice and music capabilities.
- 3.4.5. Four (4) 12VDC dome lamps shall be installed on ceiling to assist with nighttime entry/egress.
 - 3.4.5.1. Lights shall be switched at both the driver's and patron entry doors on a two-way circuit.
- 3.4.6. Stepwell lighting (12VDC) shall be provided at both entries.
 - 3.4.6.1. Shall be wired to operate in conjunction with the condition of the door.
- 3.4.7. Two (2) Whelen 97 series or equivalent, 8-32°, 12VDC weatherproof "scene" lights shall be installed on the exterior curbside. Lights shall be switched at the driver's area.
- 3.4.8. Two (2) Fantastic 6000RBTA, 12VDC powered roof vents shall be installed in the vehicle ceiling for ventilation per drawings. Units shall feature a thermostatically-controlled automatic dome opener with built-in rain switch, 3-speed reversible fan, smoked lexan dome with lifetime guarantee, and removable screen.
- 3.4.9. One (1) Duo Therm Comfort Control Center thermostat shall be installed in the driver's area. Unit shall utilize a series of advanced heat sensing devices to track temperatures in each of two (2) zones (front and rear) and activate heat or air conditioning as needed to maintain selected temperatures.
 - 3.4.9.1. Unit shall be a full digital system creating up to four (4) zones from one centralized location.
 - 3.4.9.2. Unit shall utilize a LCD readout and Intellisist technology to allow easy setting changes.
 - 3.4.9.3. Unit shall feature an AGS system monitoring the power supply and demand and automatically starting the generator as needed.

- 3.4.10. Two (2) 5" diameter fans shall be installed in the upper area of the windshield to aid in interior air circulation and defogging the windshields.
- 3.4.11. A Local Area Network (LAN) shall be installed within the Bookmobile to allow computer connectivity. The network shall be a CAT6 compliant, RJ45, 100 base T system with a minimum of eight (8) connection jacks located throughout the vehicle. System shall include a CAT6 compliant, RJ45 patch panel located in the overhead console (above windshield), be fully installed, terminated and connections verified upon delivery.
 - 3.4.11.1. System shall utilize CAT6, plenum-rated, shielded cable.
 - 3.4.11.2. System shall be installed within ½" flexible ENT conduit with additional paths installed for future expansion (TBD).
 - 3.4.11.3. Pull strings shall be installed in a minimum of six (6) empty paths as well as in addition to CAT6 cable in populated paths.
- 3.4.12. One (1) Andrew APDM928 series or equivalent, 3dB dual-band (800/1900MHz) window mount antenna shall be installed on the driver's side "wing" window. Antenna shall provide optimal performance for both cellular and PCS frequencies and have a 14" straked whip for reduced wind noise. Antenna shall provide maximum performance for CDMA connectivity.

3.5. Miscellaneous Components

- 3.5.1. One (1) SkyScan or equivalent atomic LCD clock shall be furnished, with a minimum 2-inch main character size. Unit shall include readouts for interior and exterior temperature (via wireless remote sensor), day and date, and receive its synchronization signal from NIST.
 - 3.5.1.1. Clock shall be firmly and securely attached to a wall in an easy to see location.
 - 3.5.1.2. Clock shall include a long-life premium alkaline battery, installed and running when coach is delivered.
- 3.5.2. Two (2) cup holders shall be provided, one each at the passenger and driver's seat location.
- 3.5.3. High-quality shades shall be provided for the windshields and front driver and passenger side windows. Shades shall include side-mounted guide tracks and be infinitely adjustable. Shade color shall be chosen by the Library from vendor's offerings.
- 3.5.4. Two (2) 5 lb. ABC fire extinguishers shall be installed in the interior of the vehicle, one front and one rear.
- 3.5.5. One (1) State DOT approved first aid kit shall be supplied and installed within the completed vehicle.

- 3.5.6. One (1) set of three (3) red emergency reflective triangles with dedicated ABS plastic enclosure shall be provided and installed.

4. Optional Equipment

Prospective Vendor shall provide individual quotations for each of the following options. Options shall be chosen by the Library based on responses.

Freightliner Airliner 20,000 lb. rear air suspension with dual instant response suspension leveling valves, 15.2 CFM engine-driven air compressor and all associated air supply equipment required to support this option.

Dash-mounted manual dump valve for Airliner suspension with indicator light.

Polished aluminum wheels in lieu of Stainless Steel wheel liners.

CleanAir Systems PERMIT or equivalent catalyzed diesel particulate filter for chassis engine. Filter shall reduce exhaust particulates (smoke) by more than 85% and carbon monoxide and hydrocarbons emissions by more than 90%. Filter shall include the optional HiBACK data logging and alarm system.

Reference: <http://www.cleanairsys.com/products.htm#PERMIT>

CleanAir Systems PERMIT or equivalent catalyzed diesel particulate filter for generator engine. Filter shall reduce exhaust particulates (smoke) by more than 85% and carbon monoxide and hydrocarbons emissions by more than 90%.

Dash air conditioning system integrated into cab area. System shall be engine-driven and of a capacity suitable to effectively cool the cab area of the Bookmobile.

Ground-level exterior lighting, curbside. Shall utilize four (4) TruckLite 60204C or equivalent fixtures mounted behind body skirting at an approximate 45° angle. Lights shall be switched at the driver's area.

Install two (2) exterior patron workstations. Workstations shall be recessed into the vehicle exterior curbside and shall utilize a 32" x 25" x 1" aluminum exterior door that supports upward with pneumatic springs and a smaller inner door that drops to form a work surface (reference concept drawing). Station exterior doors shall be fully weather tight and lockable, and stations shall include LAN and 120VAC connections. Final plans for these stations shall be subject to Library approval prior to installation.

Install all 120/240V wiring systems in flexible ½" and ¾" ENT

conduit in lieu of multi-conductor cabling. Conduits shall terminate at distribution panels and fixtures pursuant to NEC regulations and be populated with stranded THHN or equivalent wire with additional pull-strings.

LED main cabin lighting in lieu of fluorescent, approximately ten (10) 4"x6" fixtures. Must meet minimum stack level illumination.

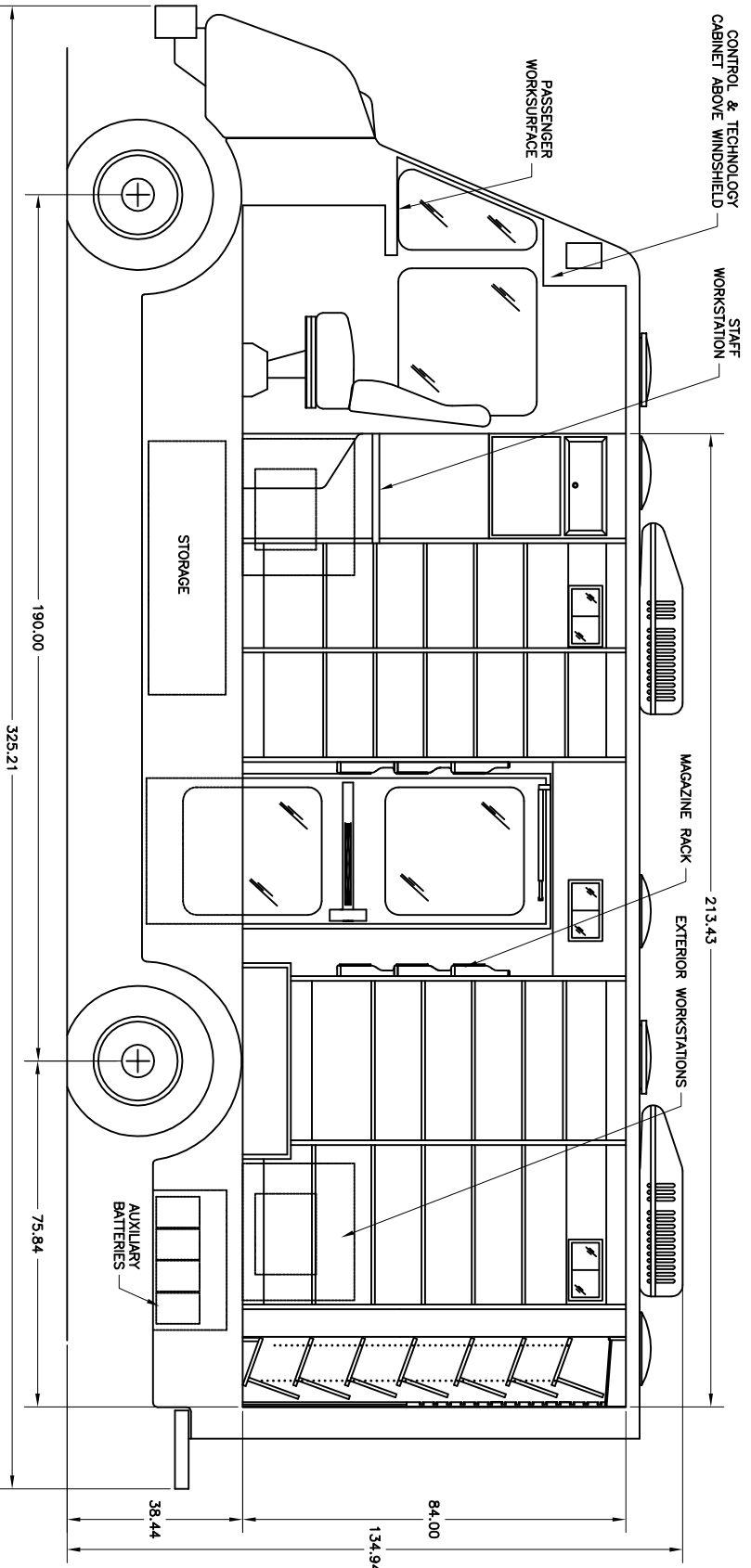
Reference: <http://www.hollysolar.com> or equivalent.

LED stepwell lighting in lieu of incandescent.

Reference: <http://www.hollysolar.com> or equivalent.

-----END OF SPECIFICATIONS-----

RevNo	Revision note	Date	Signature	Checked
1	WINDOW REDUCTION, REAR WALL SHELVING	13-AUG-04		MS
2	REMOVE REAR WORKSTATIONS	20-AUG-04		MS



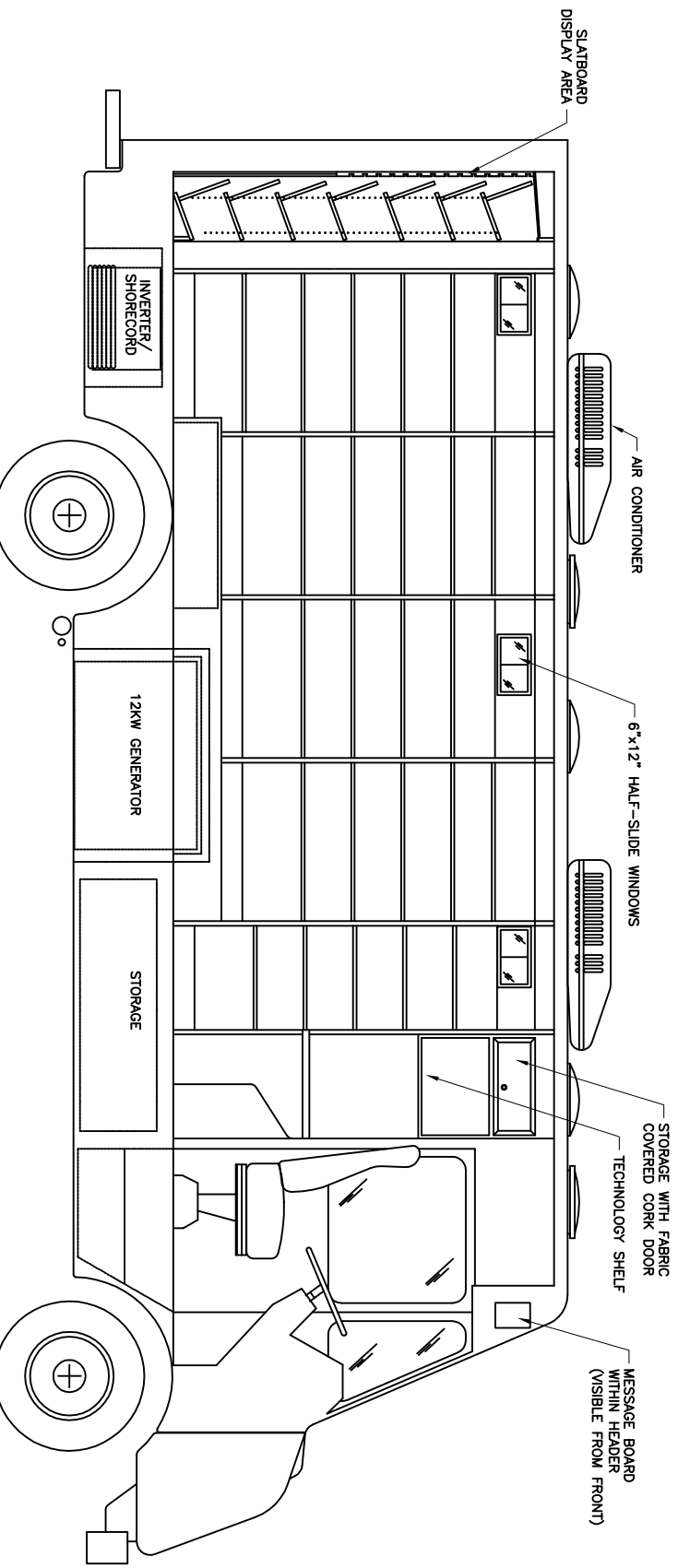
PASSENGER SIDE ELEVATION

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CONCEPT		MOUNTAIN VIEW, CITY OF		BOOKMOBILE	
Designed by	Checked by	Approved by - Date	File Name	Date	Scale
MES			MVCON01.DWG	12-JUL-04	1:40
MUSKEGO, WI			PASSENGER SIDE ELEVATION		
P: 262.679.9096			Edition		
F: 262.679.2066			1		
WWW.PHILDESIGNERS.COM			Sheet		
SVS120704-3			3 OF 5		

RevNo	Revision note	Date	Signature	Checked
1	WINDOW REDUCTION, REAR WALL SHELVING	13-AUG-04		MS
2	REMOVE REAR WORKSTATIONS	20-AUG-04		MS



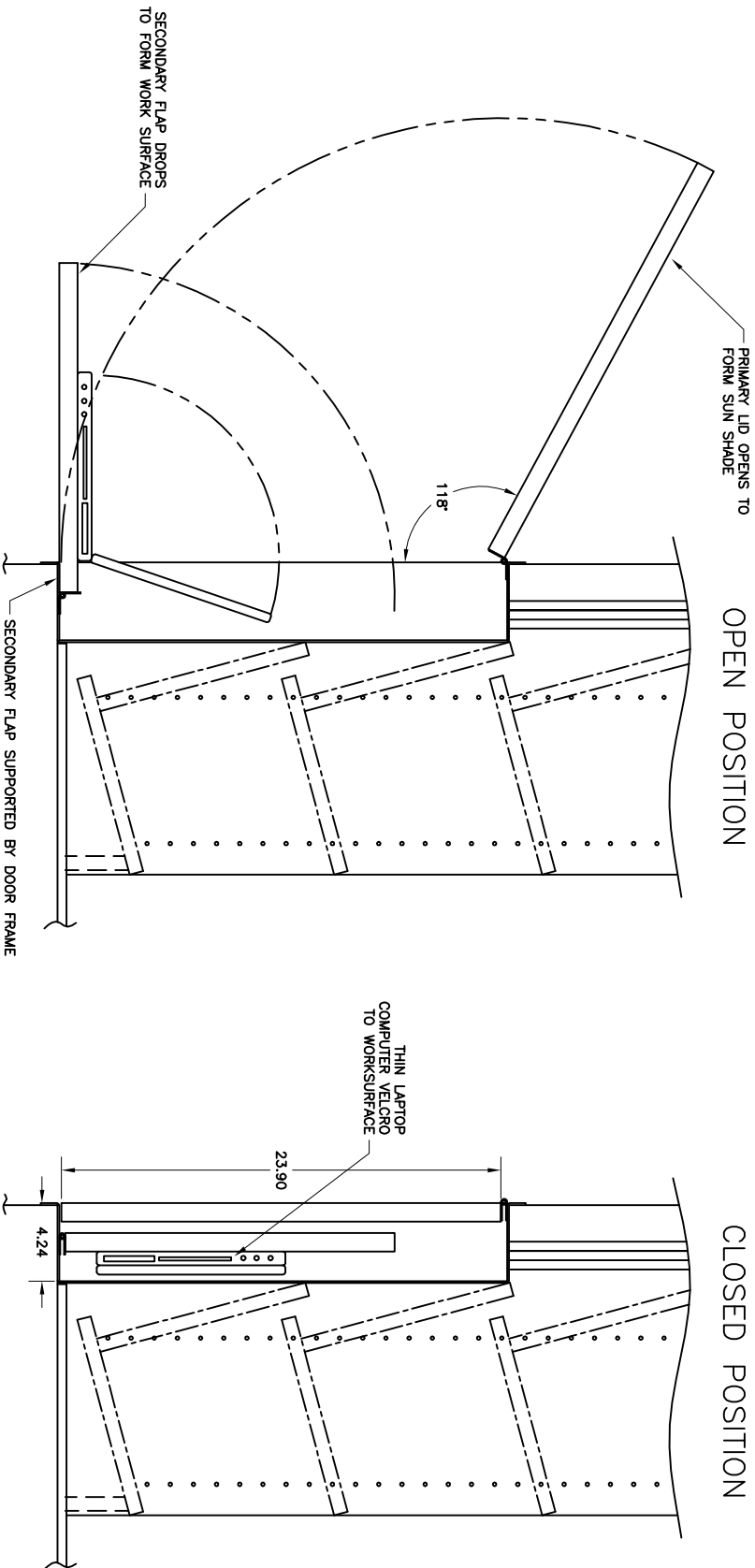
DRIVER'S SIDE ELEVATION

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		Date 10-AUG-04
		Scale 1:40
MUSKEGO, WI P: 262.679.9096 F: 262.679.2066 WWW.DHLSERVICES.COM		DRIVER'S SIDE ELEVATION
SVS120704-3		Sheet 2 OF 5


RevNo	Revision note	Date	Signature	Checked



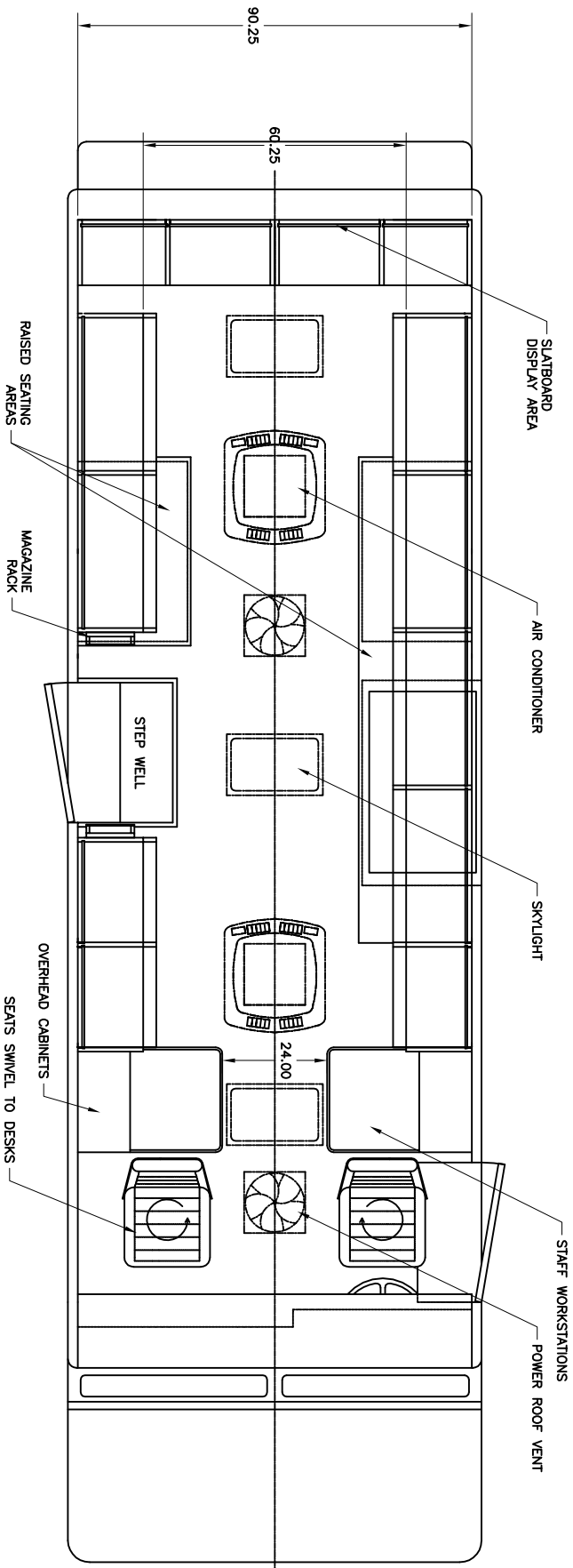
DROP-OUT PATRON STATIONS (VIEWED FROM FRONT)

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 SPECIALTY VEHICLE SERVICES		MUSKEGO, WI P: 262.679.9096 F: 262.679.2066 WWW.VEHICLESERVICES.COM		EXTERIOR PATRON STATIONS		
				SYS120704-2		
			Edition 1	Sheet 5 OF 5		

RevNo	Revision note	Date	Signature	Checked
1	WINDOW REDUCTION, REAR WALL SHELVING	13-AUG-04		MS
2	REMOVE REAR WORKSTATIONS	20-AUG-04		MS



FLOOR PLAN

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SHELVING: 199.75' (WITH ALL INSTALLED)

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		File Name MVC0001.DWG
		Date 10-AUG-04
		Scale 1:40
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Edition 1		Sheet 1 OF 5

